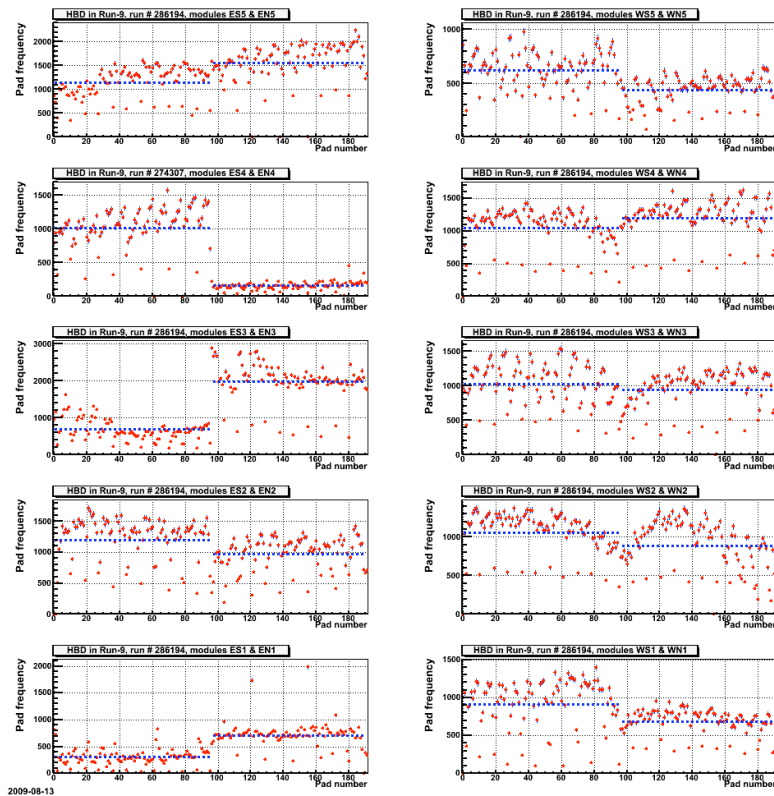


## Hbd Software Update

By Sky Rolnick  
8/18/09  
Hbd Group Meeting

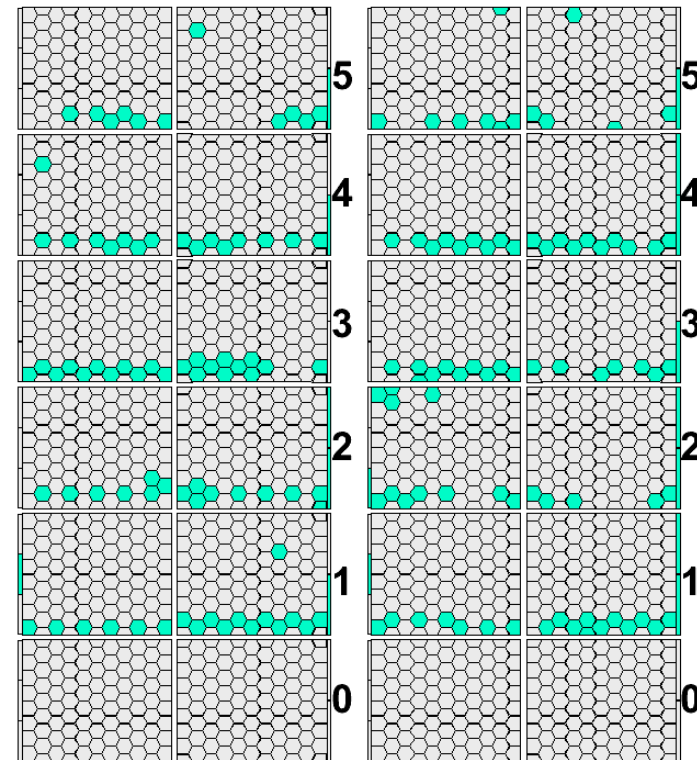
8/18/09

# + Hbd Pad Frequency



EAST

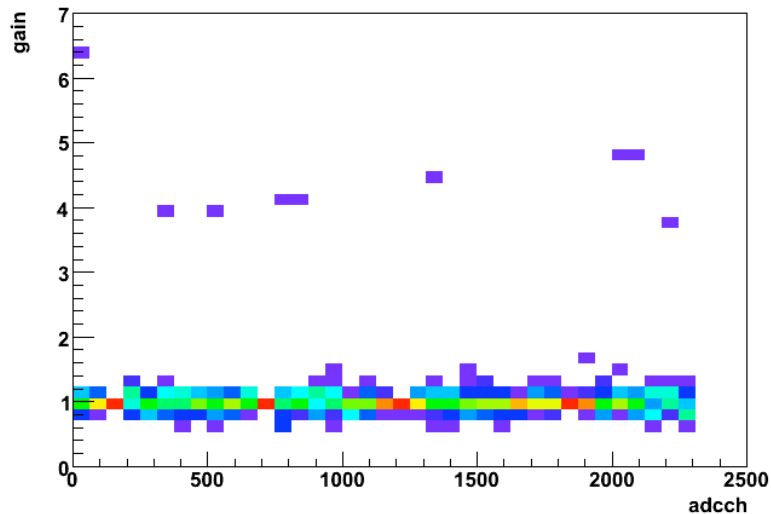
WEST



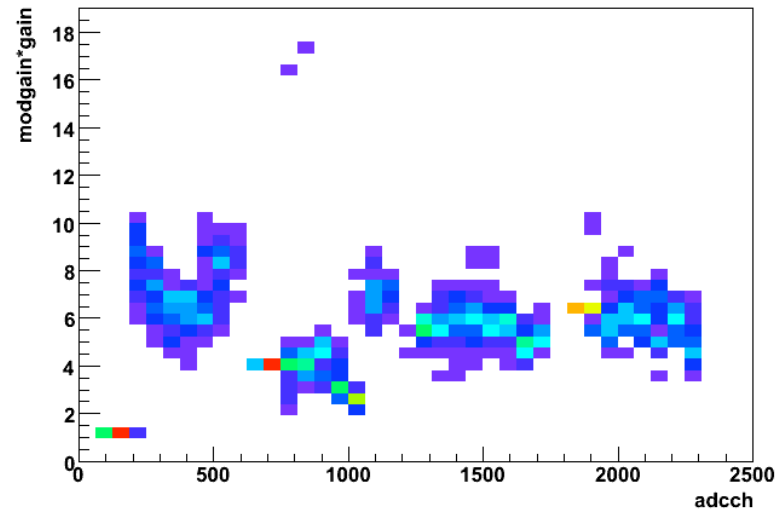
We see a regular pattern in low hit frequency wrt pads! Apparently all low freq hits line up at bottom of module.

# + Hbd Gain Factors

3



The gain depends on size and geometry of holes as well as dV. We see that most of the channels have correction factors  $\sim 1$ . There are a few outlier channels.

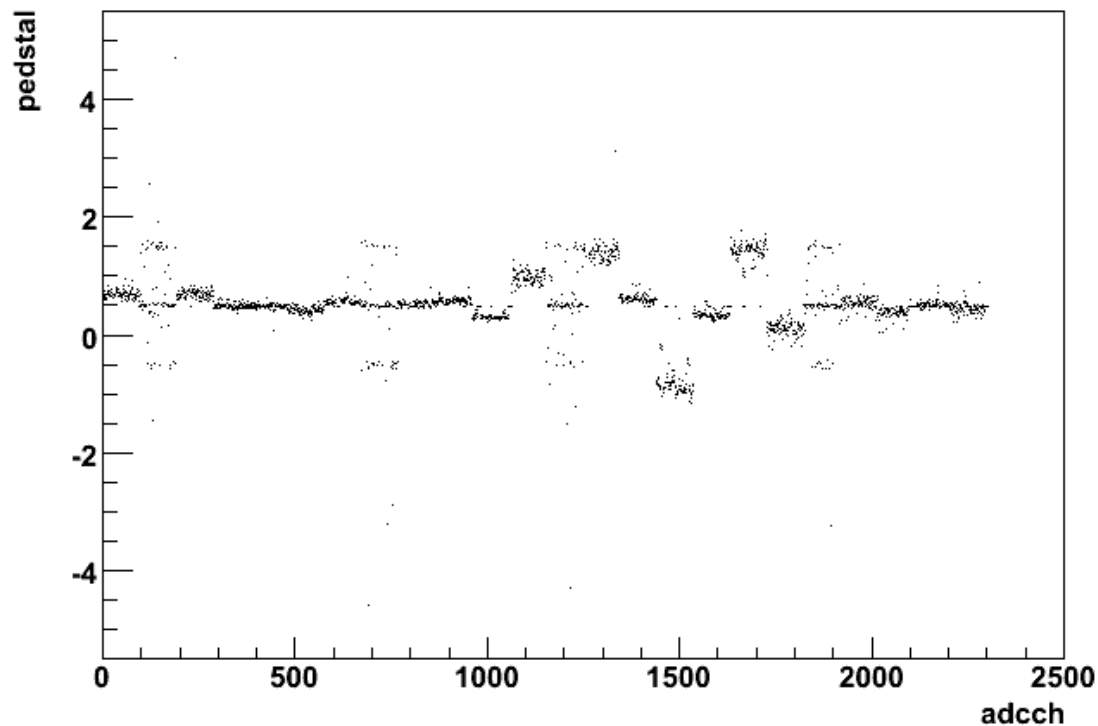


The product of modulegain\*correctionfactor gives the overall gain factor. We divide adc values by this factor to give units of photoelectrons.

# + Hbd Pedestals

4

```
pedstal:adcch {pedstal<5 && pedstal>-5}
```

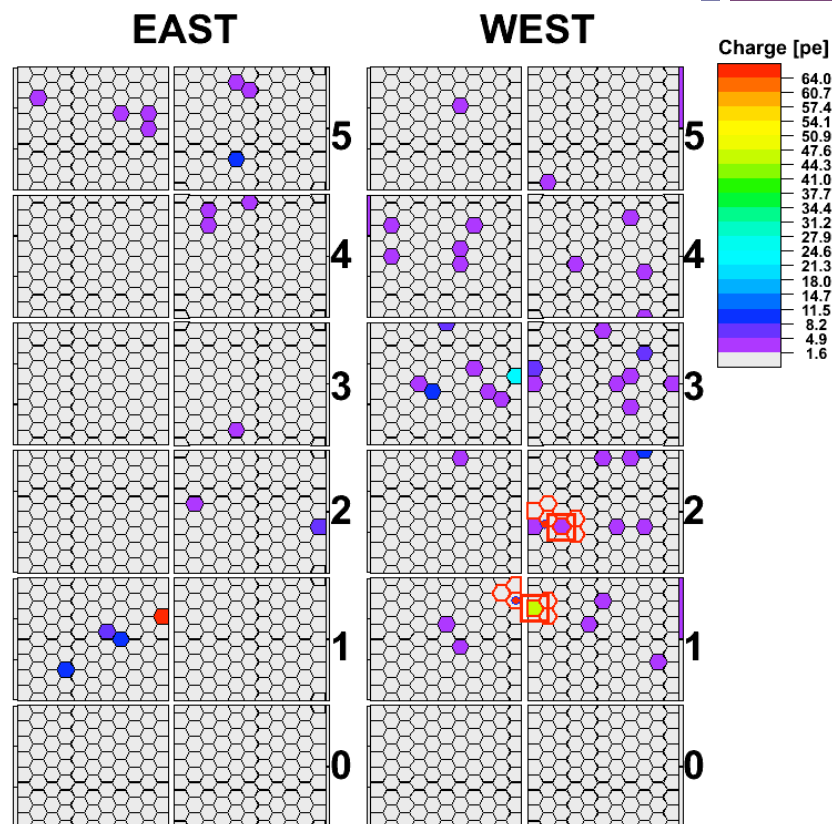
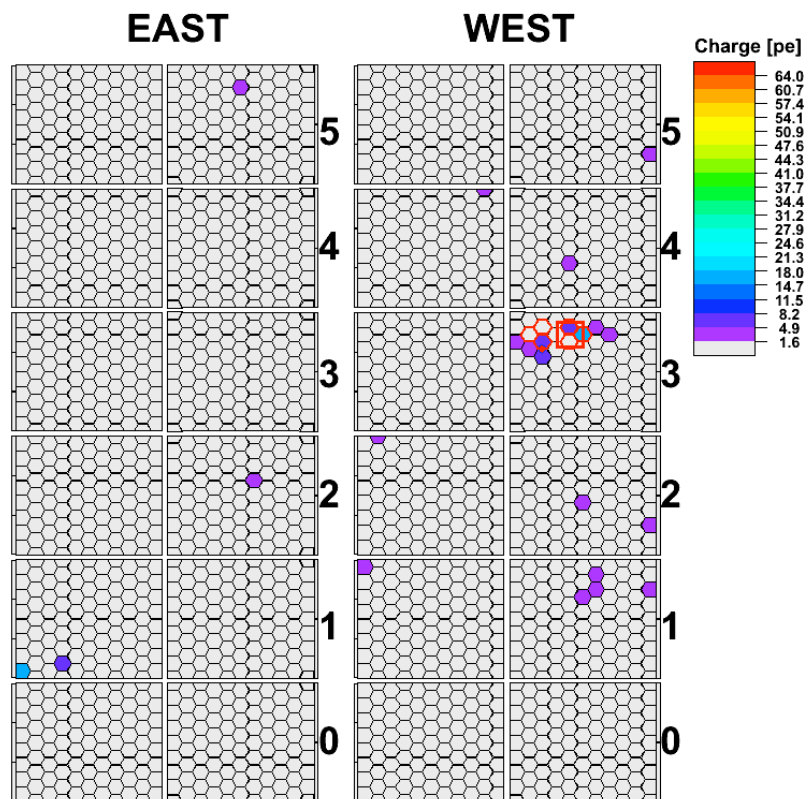


Pedestal values mostly  $\sim 1$  adc count. A few noisy channels but otherwise okay.

Looking at these values it is still not clear to me why we see pads with low frequency and why this should have the pattern we see.

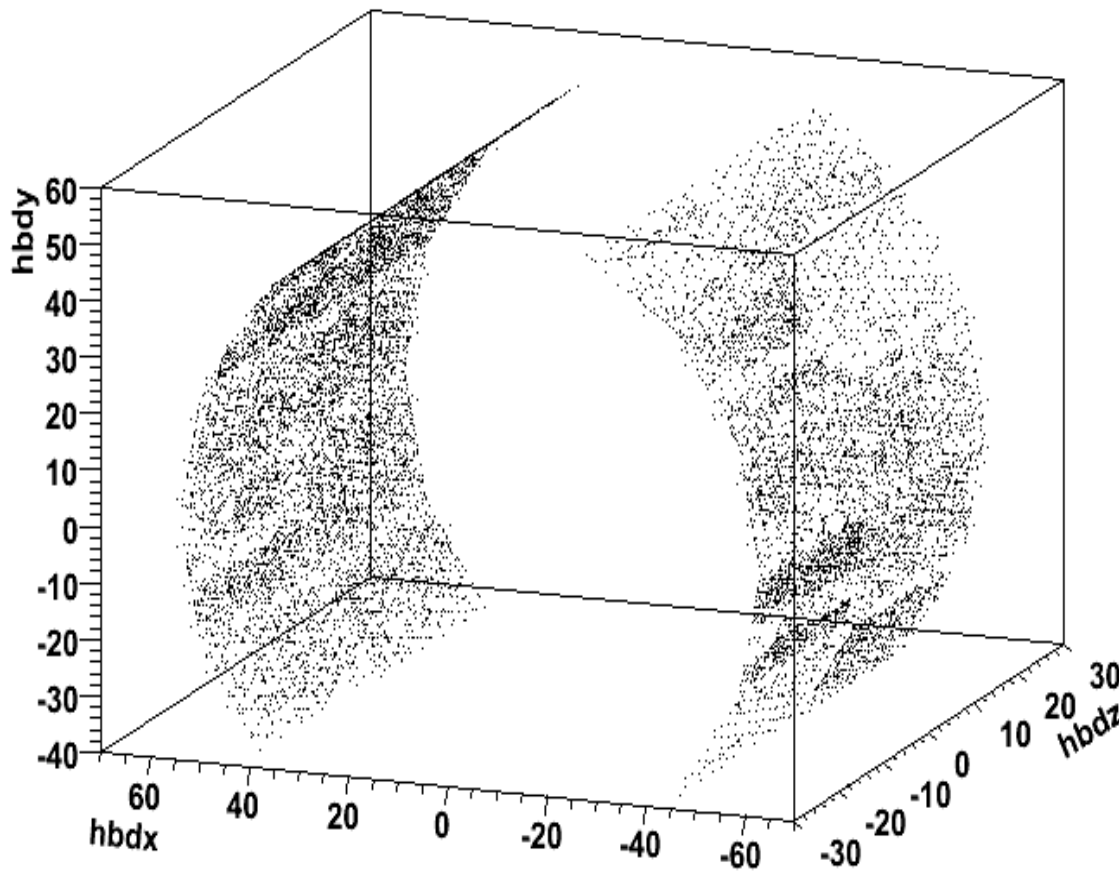
# + HnS Event Display

5



# + Hit Locations

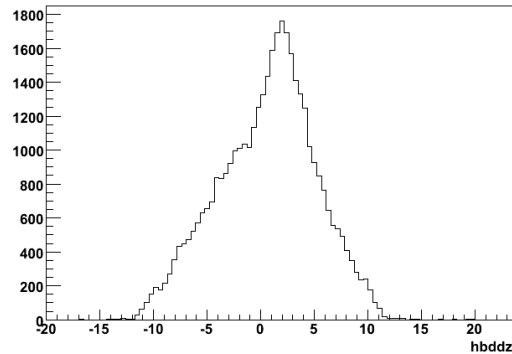
```
hbdy:hbdx:hbdz {hbdx>-60 && hbdy > -50 && hbdz > -50}
```



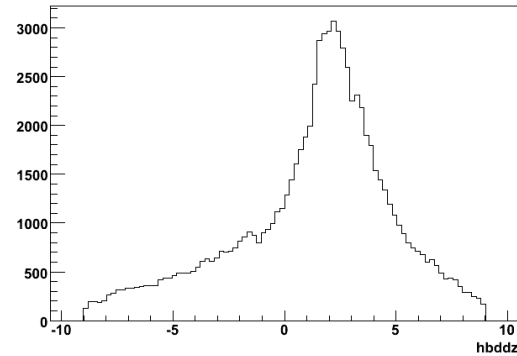
Reconstructed hit locations  
Using the blob center of  
gravity. More or less  
resembles geometry of  
detector.

# + Track Matching

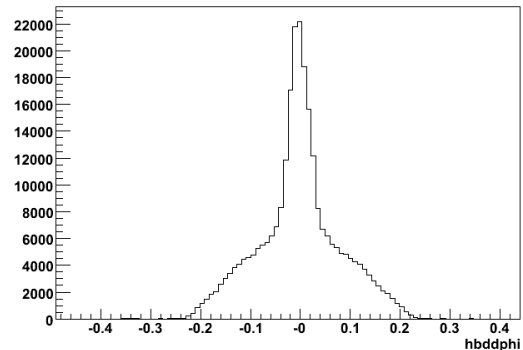
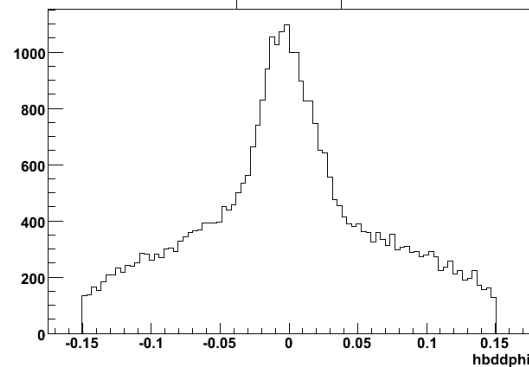
hbddz {hbddz>-20 && hbddz < 20}



hbddz {sqrt(hbddz\*hbddz+hbddphi\*hbddphi)< 9 && hbddphi < 0.01 && hbddphi > -0.01}



hbddphi {hbddphi>-0.15 && hbddphi < 0.15}

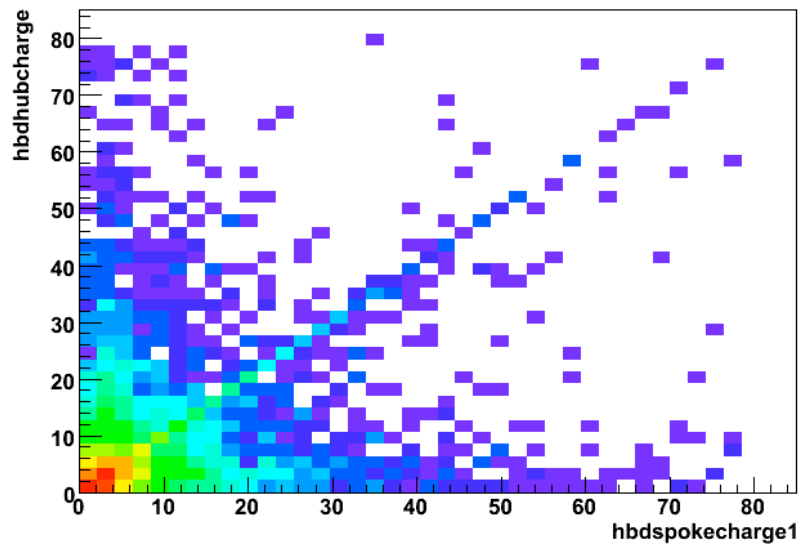


Track matching seems really bad. Tried using Some simple cuts but couldn't get rid of background.

Plotted for all sectors. Need to try plotting sector-by-sector.

# + Hub n Spoke

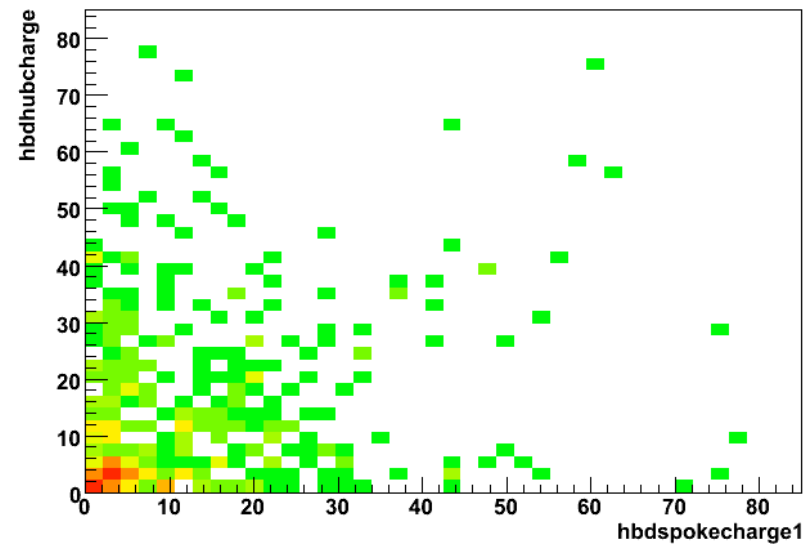
8



Hub vs spoke

Using ert data without cuts.

For all tracks including hadrons



Hub vs spoke

Using ert data with  $n_0 > 0$  cut.

Using a  $\text{dist} < 5$  cut.





The End ....